

REMARKS

Reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

A. **Status of the Claims / Explanation of Amendments**

Claims 1-14 were pending. By this paper, claims 1, 5-11 and 13 are amended, claim 12 is cancelled without prejudice or disclaimer and new claim 15 is added.

Claim 1 is amended to recite that the dehumidifying unit “supplies dehumidified gas into said load-lock chamber” instead of “forms a dehumidified environment in said load-lock chamber.” Claim 11 is similarly amended.

Claims 5 and 13 are amended into independent form. These claims had previously been dependent claims. Claims 6-10 were amended to be consistent with claim 5, from which they depend.

Claims 1-3 and 5-14 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 5,914,493 to Morita et al. (“Morita”). Claim 4 was rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Morita in view of U.S. Patent No. 6,448,537 B1 to Nering (“Nering”).

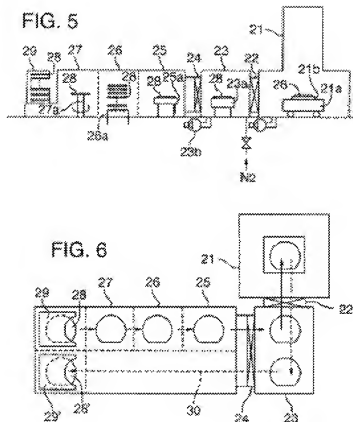
B. Claims 1-11 and 13-15 Are Patentably Distinct From Morita Alone Or In Combination With Nering, Because Both Cited References Fail To Teach Or Suggest The "Dehumidifying Unit" Recited In Applicant's Claims

The rejections of claims 1-11 and 13-14 are respectfully traversed. As explained more fully below, the requirements for such rejections are not met since the cited references, taken alone or in combination, fail to teach, disclose or suggest all of the recited claim elements. MPEP §§2131 (Section 102) and 2143.03 (Section 103).

Specifically, Applicant's claim 1 recites:

1. A load-lock system comprising:
a load-lock chamber arranged between a storage port which stores a substrate and a process chamber which processes the substrate in a process space maintained at a pressure lower than a pressure in the outside; and
a dehumidifying unit which supplies dehumidified gas into said load-lock chamber.

Morita is directed to a charged-particle-beam exposure apparatus. The apparatus of Morita's second embodiment has a wafer carrier (29), a coating chamber (27), a baking chamber (26), and a cooling chamber (25), sequentially connected. [Morita, col. 6, lines 13-18]. The cooling chamber (25) is connected to a separate, load-lock chamber (23) by a first gate valve (24). Chambers 23, 25, 26, 27 are kept at a constant preset temperature by circulating a temperature-controlled liquid or other fluid through conduits around their exteriors. This apparatus is shown in Morita's Figures 5 and 6, which are reproduced below for the convenience of the Examiner:



According to the Office Action, Morita's load-lock chamber (23) corresponds to the "load-lock chamber" recited in Applicant's claim 1. Further, the office action alleges that Morita's "dehumidifying unit comprising a heater (26a), a cooling plate (25a), and a controller (col. 6, lines 61-63) to control the cooler and heater, wherein the dehumidifying unit forms a dehumidified environment in the load-lock chamber" corresponds to the dehumidifying unit recited in Applicant's claim 1. [5/17/06 Office Action, p. 2].

However, the heater (26a), and cooling plate (25a) are disposed within other chambers of Morita's apparatus, and are *not* disposed within the load-lock chamber (23). The heater (26a) "is situated inside the baking chamber 26 to maintain the temperature in the chamber at 100C to 200C." [Morita, col. 6, lines 38-45]. The cooling plate (25a) "is situated inside the cooling chamber 25." [Morita, col. 6, lines 46-47]. Accordingly, the heater (26a), cooling plate (25a), and controller do not control the environment, or more specifically the humidity, of the lock-load chamber (23). There certainly is no purpose or intention disclosed in Morita for the heater (26a) or cooling plate (25a) to function as a dehumidifying unit for the load-lock chamber (23).

Moreover, the heater (26a) and cooling plate (25a) are not used as a dehumidifying unit in the load-lock chamber (23) by Morita. The wafer is processed at or nearly at steady-state temperature according to Morita: "The wafer 28, which has come from the baking chamber 26, is placed on the cooling plate 25a and cooled to a specific preset temperature ... approximately 25-26C" in order for the "[w]afer temperature, upon entry of the wafer into the exposure-processing chamber 21, [to] match the interior temperature of the exposure-processing chamber 21," which is approximately 23 °C. [Morita, col. 6, lines 51-67]. Under the steady-temperature conditions desired by Morita, Applicant submits the humidity also would remain constant.

Thus, Morita fails to teach, disclose or suggest "a dehumidifying unit which supplies dehumidified gas into said load-lock chamber" as recited in Applicant's claim 1.

In connection with dependent claim 4, the office action also cited a Nering, a secondary reference to be combined with Morita. Nering is directed to a thermal processing chamber configured to enclose and heat treat a single electronic substrate at an exposed surface. Without addressing the merits of the office action's assertions regarding Nering, Applicant notes that the office action did not allege Nering alleviates the above-described deficiencies in Morita. Applicant's own review of Nering finds that it is entirely silent regarding a dehumidifying unit as recited in Applicant's claims. Thus, Nering also fails to teach, disclose or suggest "a dehumidifying unit which supplies dehumidified gas into said load-lock chamber" as recited in Applicant's claim 1.

Accordingly, Applicant's independent claim 1 is patentably distinct from Morita alone or in combination with Nering. Independent claims 5, 11, and 13, and dependent claims 2-4, 6-10 and 14-15 are respectfully asserted to be patentably distinct from Morita and Nering for at least similar reasons.

Applicant has chosen in the interest of expediting prosecution of this patent application to distinguish the cited documents from the pending claims as set forth above. These statements should not be regarded in any way as admissions that the cited documents are, in fact, prior art.

Applicant has not specifically addressed the rejections of the dependent claims 2-4, 6-10 and 14-15. Applicant respectfully submits that the independent claims, from which they depend, are in condition for allowance as set forth above. Accordingly,

the dependent claims 2-4, 6-10 and 14-15 also are in condition for allowance. Applicant, however, reserves the right to address such rejections of the dependent claims in the future as appropriate.

CONCLUSION

For the above-stated reasons, this application is respectfully asserted to be in condition for allowance. An early and favorable examination on the merits is requested. In the event that a telephone conference would facilitate the examination of this application in any way, the Examiner is invited to contact the undersigned at the number provided.

THE COMMISSIONER IS HEREBY AUTHORIZED TO CHARGE ANY ADDITIONAL FEES WHICH MAY BE REQUIRED FOR THE TIMELY CONSIDERATION OF THIS AMENDMENT UNDER 37 C.F.R. §§ 1.16 AND 1.17, OR CREDIT ANY OVERPAYMENT TO DEPOSIT ACCOUNT NO. 13-4500, ORDER NO. 1232-5355.

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